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THE GENESEE FARMER.

SATURDAY, AUGUST 11, 1838.

WOODLANDS.

That the woodlands of our country have decreased, and are decreasing to a most alarming extent, no one can doubt; and when we remember the great quanty of wood annually required for fuel, fencing, and building, and see little or no effort made to supply the loss, we feel that the subject of planting trees for timber as well as for ornament, cannot be too earnestly pressed on the attention of the owner or cultivator of the soil. The great difficulty in any undertaking of this kind appears to lie in the time that will be required before any actual return can be realized from the capital required to be invested. Men should, however, remember that all their thoughts and their labors should not be for to-day, but that true greatness of mind takes in the future as well as the present; contemplates the wants of posterity as well our own; and if *money alone* is the object of exertion, finds by matter of fact calculation, that lands planted with timber will in thirty years pay a better interest, than the same amount expended in state stocks.

In any arrangements respecting woodlands, the first care of the farmer or land owner should be to save what he has, and place it in the best condition for increase.—No matter what the kind of timber may be; experience shows that where woodlands are protected, young trees will rapidly spring up to supply the place of those taken away, and that either from seeds, or from suckers springing from the stump or the roots, the drain will be more than supplied so far as number is concerned. Where lands left for wood are allowed to be a thoroughfare for cattle and sheep, the growth of young timber is impossible.—The shoots are destroyed as soon as produced, and all the efforts of nature to supply the waste must be in vain.—When it is desirable to produce a thick growth of young timber in a grove or wood lot, let it be thoroughly enclosed, and there can be no doubt as to the result; in a few years thinning will be required instead of planting, and it should too be remembered that in this case, the timber grown is of the kinds adapted to the soil, stands where it is wanted, and can be multiplied to any desirable extent.

But in many cases it is requisite to plant new varieties, and where new woodlands are to be commenced, a knowledge of the kinds best adapted to the soil, or the purposes intended, whether fuel, or timber, should be obtained. In such cases recourse must be had to seeds, unless nurseries of forest trees are at hand, which can hardly be expected where planting to any considerable extent is to be performed. The seeds of forest trees have been divided into five varieties, the most of which require different soils, and different treatment in preparing and planting. 1st. The *farinaceous or nut seeds;* such as the oak, chestnut, beech, walnut, elm, maple, and basswood, sycamore and ash; with many shrubs, such as hazel, alder, &c. 2d. *Hard seeds*, or stones enclosed in pulpy fruit. Of this class are the cherry tree, pear, crab, thorn, mountain ash, and others. 3d. *Leguminous* or bean seeds, of which the Locust (yellow and honey) and the laburnum, are the only varieties of forest trees or shrubs. 4th. *Light seeds*, under which may be enumerated the poplar, smooth elm, and the tree willows. 5th. The *resinous seeds*, or those belonging to the spruce, pine, and fir trees.

In England, where for hundreds of years great attention has been paid to planting and growing timber, and where there are probably more artificial woodlands than in any other country of the same extent, it has been found by experiment that the fir, the beech and the birch, succeed best on sandy moor soils, incumbent on shale, or siliceous sand of great depth. The pine, larch, spruce and sycamore willl succeed on an inferior sandy soil, incumbent on shale or coarse gravel. The sycamore will, however, flourish in almost any place not too cold, for its presence on our richest intervals proves that richness of soil is no obstruction to its growth. The oak, chestnut, whitewood, &c. grow rapidly on a soil light siliceous, if incumdent on a damp, clayey subsoil; but the soil that brings these trees to the highest state of perfection, is a clayey loam, incumbent on a clay subsoil. Some of the finest oaks and chestnuts in England are growing on a soil of which the analysis is as follows:—

Coarse gravel, partly calcareous	40
Fine Sand,	190
Carbonate of lime,	16
Decomposing vegetable fibre,	14
Silex,	90
Alumina, or pure clay,	30
Vegetable extracts, oxides of iron, salts, &c.	20
	400

The soil best adapted to the elm, maple, ash and hornbeam, is one damp, clayey, and incumbent on clay, or composed mostly of coarse siliceous gravel, silica, ana alumine. The maple accommodates itself to a greater variety of soils than most other trees, and is found in western New York, on almost all kinds, excepting the most light and sandy, or those based on shallow covered calcareous rock.

By paying a little attention to the soils on which any kinds of timber are growing naturally, the quality of the soil on which the planting of any desired variety of tree intended may be known at once; and if a soil is found on which most of our forest trees, such as the oak, chestnut, whitewood, basswood, white maple, walnut, black walnut, &c. are growing or have grown together, it will be found the best for almost any new variety of forest tree, as such soils are usually deep, and made up of ingredients suitable, in the main, for all. In general it may be remarked that where the soil is good for wheat, there the oak, chestnut, and tulip tree will flourish; where the soil is adapted to corn, there the sycamore, locust, the walnuts, and some of the elms will succeed; and that on all soils where spring grains are found the most profitable, the white elm, ash, maples, and the hardier evergreens will be the best. The pine, the locust, the maple, and the oak, require different soils, as the slightest observation of their natural growth will show; and though trees will make great efforts to accommodate themselves to any soil, yet where planting is to be performed, those the most suitable to the soil, and which will be of the most value in the particular location should always be preferred. The surest guide in such matters, is to follow nature. Where it is desired to timber low lands, the cyprus, black ash, swamp pines, and trees of this class, will be always available, according to circumstances.

In selecting as trees for cultivation in woodlands, a few which are valuable for fuel, timber, or mechanical purposes, our directions for the time of sowing seed must be mostly derived from European publications, as little attention has, as yet, been paid to this method of propagation in this country.

BASSWOOD, *Tilia Americana.* Seed to be sown in Autumn, in moist, light soil: but the usual mode of propagation is by layers. Basswood, like the chestnut, throws up abundance of suckers from the stump, and where woodlands are protected no other means of increase are required.

WALNUT, *Juglans*; including the common walnut, hickories, black walnut, butternut, and pignut. 'Preserve the nuts till the latter part of winter in their outer covering after which they may be sown.' Slightly covered in the ground, and left to freeze through the winter, these nuts usually vegetate without difficulty. We have raised several hundred plants of the *Juglans cathartica* simply by allowing the nuts to lie in the grass where they fell from the tree, and transplanted them after one year's growth.

MAPLE, *Acer.*—'The seeds should be preserved in dry sand till spring, and then sowed early; but should the soil be dry and free from the attacks of vermin, it is advantageous to sow as soon as the seeds are ripe.' In this country transplanting from the forest will most probably be the easiest method of obtaining this beautiful and valuable tree, which deserves cultivation to a great extent.

LOCUST, *Gliditschia* and *Robinia.*—The seeds of the locust were formerly among the most difficult and uncertain of vegetation, sometimes lying in the ground two years. But by gathering the seeds when ripe, preserving them till the spring, and then pouring boiling water upon them, and allowing them to remain till swelled, they will grow with certainty. The soil for a locust nursery should be warm and deep; and the tree itself will flourish best in a gravelly and moderately rich soil—cold, wet, clayey grounds are unfit for the locust. It is a tree of rapid growth, and the excellence of its timber is well known.

ASH, *Fraxinus.*—The time of sowing the seeds of the white or black ash, is in autumn, or as soon as ripe, and the plants will frequently appear the same season. If the seeds are kept over the winter, it should be in dry sand; and they should be sown as early as the ground can be prepared for their reception.

WHITEWOOD, *Liriodendron*, or tulip tree.—The seed must be sown in the spring, in a light soil. This tree grows quickly, has beautiful foliage, and fine flowers, and its wood for many purposes is ranked next to pine.

POPLAR, *Populus.*—All the varieties of poplar may be propagated by cuttings, suckers, or layers; the first mode is generally preferred. The poplars are of rapid growth, but are unfit for fuel. Were it not for this fact, some of the varieties of the poplar would be the most valuable trees for woodlands that could be selected.

BIRCH, *Betula.*—The seed may be sown in autumn or spring, but must be kept in dry cool sand from the time it is ripe till sown. The black birch is the most valuable of our varieties being of quick growth, excellent for fuel, and a valuable timber tree. Russian leather owes its durability, and its freedom from the attacks of insects, to an empyreumatic oil obtained by burning the bark of the birch tree in kilns constructed for that purpose.

OAK, *Quercus.*—Sow the acorns in November, or if kept till spring, lay them on a cool dry floor. We have this season seen hundreds of young oaks sprung from acorns that lay where they fell last autumn. But two kinds of oaks are of much consequence as timber trees in our latitude, the white and the black, *quercus alba*, and *quercus tinctoria*, and these may be grown in almost any soil, tho' they prefer a rich clay loam, with a clay subsoil.

BEECH Tree, *Tagus.*—Seeds to be sown in the fall; the only danger is to be apprehended from mice, as they sprout and grow with much certainty. The beech is good for fuel; and is highly prized where weight and solidity are required, particularly the wood of young and thrify trees.

CHESTNUT, *Castanea.*—Seed to be sown early in the spring, in a rich, sandy loam; and it is in such a soil that this valuable tree attains its greatest perfection. It may, however, be grown in any soil where the roots can spread freely and are not subjected to stagnant moisture. Lands covered with chestnut timber, are very valuable, as they can be cut every twenty-five years for posts, rails, &c., and require no replanting, or care to secure a continued growth, except protection from cattle for a few of the first years of their growth.

PLANE Tree, *Platanus.* Sycamore or Button Wood.—Seeds to be sown as soon as ripe in a moist shady situation; and the tree prefers moist loam, free from stagnant water. It is a tree of large growth, makes a fine ornamental tree, and is good for fuel.

ELM, *Ulmus.*—'Seeds to be sown as soon as ripe, on a bed of fresh loamy earth, to be shaded from the midday sun until the plants appear to be well rooted.' There are a number of varieties of elms growing in our forests, but the two most deserving of notice are the white elm, and the red elm. The red elm is the most valuable for timber of any of our varieties, but the white elm exceeds it in beauty and rapidity of growth. Michaux has pronounced the elm the most magnficent vegetable of the temperate zone; and the size they attain in our forests is astonishing.

CYPRUS, *Cupressus.*—Seed to be sown in spring, in a warm situation, or in pots in light dry earth, to be kept in the cones till the period of sowing. The wood of the cyprus is very durable. Prof. Martin says 'the doors of St. Peters church, at Rome, were made of this wood, and lasted eleven hundred years? Worms rarely attack it.—

The common American cyprus attains the largest size in low, damp soils, though it will grow in those that are loose and sandy loam. In the swamps on the Mississippi below latitude 31 deg. it grows to the height of 120 feet, and is sometimes 40 feet in circumference near the ground.

Pine trees, are generally transplanted, or are allowed to spring up spontaneously; but where seeds are used, they should be sown immediately after being gathered as their vegetative power cannot be preserved for any considerable length of time after being taken from the cones. The seeds must be planted in fine light earth, and covered very lightly. The Spruce, balsom of fir, stone pine, and indeed all the resinous trees, or coniferous ones, require a similar treatment to succeed in the vegetation.

We have thus noticed a few only of the many trees that might be beneficially planted for the formation of woodlands; and the cultivation of some or all of them should be entered upon by the most of our farmers without delay, the selection being made with reference to the wants of the individual, whether for fuel, fencing, or timber, or all combined. Our roads, our avenues, the borders of our fields, should be planted with trees; every opening in our existing woodlands should be filled up with one or more of the trees best adapted to the soil and the location;—young trees where they spring up should be carefully preserved; and every reasonable exertion made to increase the quantity of our woodlands, and add to their value.—Where beauty and utility are so closely combined as in the planting of trees, the farmer should engage in their propagation with alacrity; remembering that besides adding to the beauty of his farm, every tree he plants, and every acre of woodland he cultivates, is money at compound interest, a permanent income, thebenefit of which will be realized by his children as well as by himself.

Geology and Geography of New York.*

The last number of Prof. Silliman's Journal, contains an interesting account of an exploration of the region around the sources of the Hudson river, and a barometrical admeasurement of the principal peaks that constitute the nucleus of that elevated range, furnished for that work by W. C. Redfield, of N. York, one of the exploring party, and thence copied into the Family Magazine, a valuable miscellaneous work conducted by that gentleman on somewhat the plan of the Penny Magazine, and which deserves an extensive circulation.

It is a fact no less surprising than true, that a range, or rather cluster of mountains, by far the highest and most remarkable in the state, and, with a single exception, more elevated than any others east of the Rocky Mountains, should have remained for one or two hundred years, within thirty or forty miles of one of the greatest thoroughfares on the continent, without a suspicion of their great elevation, or scarcely a knowledge of their existence. The Cattskills had long been considered the highest range in the state; but it was now discovered that a part of the upper course of the principal northern branch of the Hudson was higher than the highest peak of that range, and that the source was no less than 900 feet above the Round Top. This is one of the results of the geological survey of the state;—which, in addition to the great advantages to be expected from that investigation, promises to add much to our geographical knowledge, and correct many errors into which we have fallen with regard to our own territory.

The sources of the Hudson are spread over the southern part of the wild and unknown region that occupies that part of the state embraced between the settlements on the Black River, St. Lawrence, Lake Champlain and the upper Mohawk. Several thousand square miles are here nearly destitute of any settlements, without roads, covered with dense evergreen forests, abounding in lakes, and filled with animals that delight in the unbroken solitudes of nature. From Port Henry, on Lake Champlain, an apology for a road has been opened in a west direction across this region to the Black River Settlements. This road crosses the main northern branch of the Hudson, about 40 miles from the lake, and a few miles below the new settlement of MacIntyre, which has been created by the owners of the immense ore beds that there cross the Hudson river, and furnish a supply for the Iron works in operation and erecting at that place; and it was to this place that the course of the exploring party was first directed.

The first visit was made in 1836. The party consisted of Archibald McIntyre, Judge McMartin, David Henderson, David C. Colden, Mr. Hall, state geologist, and Mr. Redfield. Thirteen miles from the Lake they crossed Schroon River, the east branch of the Hudson; nine miles from Schroon they found a Mr. Johnson on the outlet of a mountain lake, called Clear Pond, the only dwelling on the road from Schroon to the Black River. Eight miles from Johnson's they crossed the Boreas river, and some eight or nine miles farther they reached the Hudson, about 8 miles below the Iron works of MacIntyre. These are situated immediately at the base of the cluster of mountains that divide the Hudson from the Ausable.

The party immediately entered on the exploration of these wild fastnesses, which apparently had never been trodden by human foot; but the unexpected difficulties of the country, and the limited supply of provisions compelled the party to desist, after they had ascertained that the geography, natural and physical, of the district, was deserving a fuller investigation, and that the geology of that section of the state was of a most interesting character.—At a later period of the year Prof. Emmons passed through that magnificent defile, the Notch, to the north of McIntyre, and measured the height of that stupendous precipice, the Wall Face mountain, forming the west side of the defile. Nothing could equal the dreary and savage character of the country traversed by the party; and the following extracts will show the animals that range over it unmolested. "Traces of wolves and deer were frequently seen, and we discovered also the recent tracks of a moose, *Cervus Alces, L.* We also noticed at the inlet of Lake Sanford, the fresh and yet undried footsteps of a panther, which apparently had just crossed the inlet." * * * * "Previous to reaching the outlet of Lake Colden, we had noticed on the margin of the river, fresh tracks of the wolf and also of the deer, both apparently made at the fullest speed, and on turning a point we came upon the warm and mangled remains of a fine deer, which had fallen a sacrifice to the wolves; the latter having been driven from their savage repast by our unwelcome approach. There appeared to have been two of the aggressive party, one of which, by lying in wait, had probably intercepted the deer in his course to the lake, and they had nearly devoured their victim in a very short space of time."

The second tour of exploration took place in August, 1837, and the party consisted of Messrs. McIntyre, Henderson, Hall, (state geologist) Professors Torrey and Emmons, Messrs. Ingham, Strong, Miller, Emmons Jr., and Mr. Redfield. They commenced their march from the settlement of McIntyre, on the 3d of August, and after a most fatigueing route reached the source of the Hudson, on the morning of the 5th. Mr. Redfield in his narrative says, "At 8, 40 A. M. we reached the head of the stream on the summit of this elevated pass, which here forms a beautiful and open mountain meadow, with ridges of the two adjacent mountains rising at easy slopes from its sides. From this same meadow which lies within the present limits of the town of Keene, the main branch of the Hudson, and a fork of the east branch of the Au Sable commence their descending course in opposite directions, for different and far distant points of the Atlantic ocean.—The elevation of this spot proves by our observations to be more than 4,700 feet above tide water; being more than 900 feet above the highest point of the Cattskill mountains, which have so long been considered the highest in the state. The course of the Au Sable to Lake Champlain, does not exceed 40 miles, yet its descent is 4,610 feet!—This, according to our present knowledge, is more than twice the descent of the Mississippi proper, from its source to the ocean."

The highest peak of the mountains lies S. W. from the source of the Hudson one and a quarter miles; and the party reached the most elevated point about 10 o'clock.—After clearing the zone of dwarf pines and spruces which surround the mountain, they found the open rocky surface covered only with mosses, lichens, and small alpine plants; and a clear view in every direction. On some small deposites of water in the rock, ice was found at noon, one half an inch thick. "Around lay scattered in irregular profusion, mountain masses of various magnitudes and elevations, like a vast sea of broken and pointed billows.—In the distance lay the great valley or plain of the St. Lawrence, the glittering surface of Lake Champlain, and the extensive mountain range of Vermont." Through a depression of the latter range the party discovered another, and more distant range, but whether the part seen was the White Mountains of New Hampshire, or the Franconia Mountains near the head of the Merrimack, they could not determine. The barometrical observations, on this peak showed an elevation of 5,457 feet, exceeding the height of the Whiteface mountain by 600 feet, and the highest point of the Cattskill by 1,650 feet.

The party afterwards visited two or three other of the elevated points in this cluster of mountains, none of which equalled, in height, the one already noticed. Two of these points they named McIntyre and McMartin, and the name of Marcy has been bestowed on the high peak, a merited compliment to our worthy governor. The geological character of this nucleus of mountains is singular, as it is entirely different from that of the country or the mountains around it, and the peculiar rock which constitutes these elevated masses is not found in any other place within the United States. It consists of "dark colored and sometimes opalescent feldspar, accompanied towards the exterior part of the formation with green angite, or pyroxene, but in the central portions the feldspar alone constitutes almost the only ingredient of the rocks. It is apparently destitute of mica, quartz, and hornblende, and also of any traces of stratified gneiss." * * "The nearest locality at present known of a similar rock, is about 200 miles north of Quebec, on the N. E. border of lake St. John, from whence it extends to the Labrador coast." It is from this coast that its name of *labradorite*, or Labrador feldspar, is derived.

The localities of this kind of rock derive more importance in a geological point of view than they would otherwise have, from the fact that the boulders so thickly scattered over the Oneida country, and more or less over the whole of the lake slope of western New York, are mostly of this kind of rock, and hence can be traced directly as it were to their original location. "The most eastern of these transported boulders, known to exist, is one of about one hundred tons weight at Coxsackie on the Hudson, one hundred and fifty miles south of the labradorite formations, and three hundred feet above the river." We have seen them of several tons weight reposing on the argillaceous range that runs through Western N. York, and at elevations of from five to ten hundred feet above the Erie canal. Prof. Hitchcock, in his valuable geological survey of Massachusettes, traces the boulders that occupy so much of that state, to their original beds, and finds the most conclusive proof that the current that deposited these masses of stone in their present location, must have flowed from the west of north; and the manner in which these labradorite boulders are distributed, not less clearly shows, when their present position and origin are considered, the action of currents powerful and extensive from the N. E. Mixed with these labradorite masses of feldspar, we have seen some few blocks of opalescent or flesh colored feldspar, and some beautiful specimens that were a pearly white, needing but decomposition to form the valuable earth called kavlin, and used when pure in the manufacture of the finest porcelain. It may be remarked that these latter varieties of feldspar have less the appearance of rolled masses than the dark colored, or labradorite boulders, their angles being acute and apparently of recent fracture, when compared with the heavy blocks of the labradorite. From the researches of the state board of geologists, we anticipate much valuable information on all subejcts connected with the geological formations of this state; particularly the position of the various stratas, the localities, proofs, of currents, superposition, &c.

To show the rank to which these newly discovered mountains are entitled, we have thought it might not be unacceptable to give a summary of the highest mountains yet known east of the Mississippi; we say yet known, be-

*This article was written in March. It having been mislaid is the cause of its late appearance.

cause it is not impossible that in the tract of country we have described, mountains of equal, or even greater height, may not exist ; and because the citizens in the vicinity of the Black mountain, in North Carolina, are putting forward its claims to be considered the highest mountain in the United States. No accurate measurement of that range has, however, yet been made, so far as we know, and experience shows that the eye in estimating, or the feet in climbing heights, are not always to be depended upon. Those given are the result of barometrical observations conducted with great care by scientific men, and, in most cases, repeated admeasurements have verified the correctness. We commence with some of those determined by Mr Redfield and his scientific party.

Lake Champlain above tide water,	90 feet.
West Moriah , Schroon river,	1,117
Johnson's, at Clear pond,	2,000
Boreas river bridge,	2,026
Hudson river bridge,	1,810
McIntyre,	1889
Lake Henderson outlet,	1,936
Lake Colden outlet,	2,851
Hudson River, above the Dyke falls,	3,356
do in the High valley,	3,711
Source of the main branch,	4,747
Summit of Mount McIntyre	5,183
do Mount Marcy, or the high peak of Essex,	5,467

The party estimated that there were not less than ten peaks within a short distance that would reach 5,000 feet; "and beside these there were not less than a dozen or twenty others that appear to exceed the highest elevation of the Cattskil group." Thus it appears that this cluster probably furnishes more peaks above 5,000 feet in height, than all the rest of the United States ; though Mount Washington still deservedly wears the palm. We collect from various authentic sources the measurements of the following mountains in the United States.

Monadnock,		3,450
High Peak of the Cattskills,		3,718
Round Top	do	3,804
Mansfield Mountain, Vt.		4,279
Munroe,		4,356
Franklin,		4,711
Madison,	White Moun-	4,806
Jefferson,	tain group.	5,058
Adams,		5,328
Washington,		6,237

Mr. Redfield remaks, "Owing perhaps to the lime and soda, which are constituents of the labdoritic rock, and its somewhat easy decomposition when exposed to the atmosphere, the soil of this region is quite favorable to the growth of the forests, as well as the purposes of agriculture." This opinion, so far as regards the soil, may be correct, yet it is evident that the vicinity of high mountains in such a northern latitude, must have a direct tendency, by reducing the temperature, to prevent the operations of agriculture to any considerable extent. Air cooled below the freezing point in August on the tops of mountains, easily finds its way to the valleys and plains below, producing early frosts destructive to fruits and vegetables. Our impression is, that it is in the mineral riches of this region, and not in agriculture, that the true source of profit resides. Sprinkled with lakes, covered with the densest forests, abounding in the finest streams and water falls, and possessing inexhaustible supplies of the most valuable iron ore, nothing seems wanting to make this mountain district the Wales of the United States, and from its furnaces and forges send forth the iron, for which millions are now annually sent abroad.

MECHANICAL POWER.

John Hague, a civil engineer of London, has, after a long series of experiments, succeeded in a plan of transferring mechanical power to any distance, thus enabling machinery to be erected in more convenient places, than when it was confined to the immediate vicinity of the power. Suppose the power to be water. This is made to work by means of a water wheel exhausting pumps, which draw out the air from an air tight tube made of iron, or any material that will resist the pressure externally of 15 lbs. to the square inch, and be perfectly air tight. It is clear that if the other end of the tube is connected with the slides of an engine, that one side of the piston in the engine would be exhausted of the air in it, and if the air is allowed to enter on the other side, it is evident, if the vacuum is perfect, that there would be the pressure of 15 pounds to the square inch on the area of the piston. As the vacuum is never complete, the pressure may be put at two thirds, or ten pounds, to the square inch. The friction of air, &c. must also be taken into the account of loss of power, but experience shows that the whole combined is trifling, and the power exerted through the tube by *atmospheric pressure* nearly equals the whole quantity generated. It is clear that the original amount of power may be kept whole, or divided into few or many branches, and each taken to its separate engine, so that the aggregate, allowing for friction, does not exceed the primary amount of power obtained from the water wheel, steam engine, &c.

Such is a condensed account of this important invention, from a foreign Review ; and the principle as well as the value can be seen at a glance. Abundance of water power exists in many places where there are no conveniences for mills or manufactories, but by this transfer of power they can be erected where the best situation offers. Mr. Hague has erected several extensive works on this plan both in England and elsewhere. The Mint of Rio Janeiro is worked in this way. The extensive gunpowder manufactory of the Sultan, at Constantinople, is worked by a water power three fourths of a mile from the buildings ; and in Cheshire, Eng., there is a large factory three miles from the primary power. Indeed it is clear, that nothing is wanting but air tight tubes of the requisite strength, to transfer the power to any desired distance. We think it an invention of great practical importance ; and believe that it will have a great influence in the erection and location of manufacturer's establishments hereafter.

STIR THE EARTH.

If we were to form an opinion from the appearance of the gardens and corn fields of some of our farming friends, we should imagine that the apparent reluctance to stir the earth during hot weather, arose from the belief that turning over the soil, and pulverizing the earth in such weather, had a tendency only to dry the whole mass the more thoroughly, and render the dryness complained of still more destructive. Such we imagine is not the fact ; and any one who has noticed how much nearer the surface moisture will be found, at all times, in well pulverized and frequently stirred earth, than in that which remains compact and unmoved, will, we the think, agree with us.

The reason why fine and oft stirred earth suffers less than that which is not stirred, arises from its diminished powers of absorption. There is at all times, and particularly in the hotest weather, a great quantity of moisture suspended in the atmophere, and the earths absorb this in proportion to the nature of their constituent parts, or their fineness of sub-division. Davy estimated this moisture at about 1-14 of the volume or bulk of the air, and 1-21 of its weight. Of course. the supply is at all times ample for the wants of p'ants, if the earth is in a situation to receive it for their use.

A foot square, or a cubic foot of earth in a compact mass, only presents a surface of six square feet to the atmospheric influence. Pulverize this mass, and it not only increases in bulk, as plaster or corn does when ground. but an extent of superfices is spread to the air equal perhaps to millions of square feet, and every point of this exposed suface absorbs more or less moisture from the atmosphere. If on the earth, and around the roots of plants, the effect is the same ; and thus while the minute fibres of the roots seek in vain in a hard,dense, unstirred soil for the moisture so essential to their nutrition, in a frequently stirred soil they find it in abundance, as such earth is constantly and rapidly absorbing it from the air, and retaining it for the use of plants.

Tull, the great restorer of English agriculture, maintained that pulverization was the source of fertility, and that land, by means of this process alone, might be kept in a high state of fertility for an indefinite period of time. He was, unquestionably, in a great error here;—but his success in farming, and his general system of management attracted much notice, and gradually led to the improved systems, which have justly rendered the agriculture of England and Holland so famous. To his reasoning and example, we, in a great measure, owe the rotation system of cropping , which, while it aims to keep the earth by ploughing and pulverizing in a fit state for atmospheric influence, does not, as did Tull, prohibit or decry the use of manures, without which no land can long be kept in cultivation without evident deterioration.

The growth of corn, carrots, turneps, mangold wurtzel, or the sugar beet, is usually in proportion to the depth of the soil and the thoroughness of the tillage. If the earth is put in good condition at the reception of the seeds, and made loose and friable to a sufficient depth, there will be no necessity of disturbing any of the horizontal roots, in giving those frequent stirrings of the surface with the horse hoe, or cultivator, which add so much to the vigor and value of the crop. To stir the earth frequently, and prevent the growth of any weed, is the great secret of after culture in any crop; and the care with which their bean, turnep, and even wheatfields, are hoed and wed in England and Holland, proves that in this simple process they find much and certain profit.

The Ploughing Match.

The committee appointed to make a decision at the trial of ploughs at Hoboken, on the first day of August, under the direction of the American Institute, have attended to that duty and report :

That eight ploughs were entered for competition and comparison, and they regret that the circumstances of land, weather, and time allowed, were unfavorable to as public a trial as would otherwise have been desired. They have been anxious to do full justice ; and taking all the prescribed conditions and qualifications into view, they are agreed

That Minor & Horton's plough is fully entitled to the premium offered on the occasion.

That Ward's plough is entitled to the second honorary notice.

That Howard's plough is of admirable construction and workmanship, and much to be esteemed for its work in ground and with team adapted to it.

That Bebee's plough is much to be commended for its lightness of draft, and is capable of doing good work,

That Bergen's plough and ploughing were creditable to him.

They regret that owing to an accidental breaking of the point, Mr. Beach, of Philadelphia, was obliged to withdraw his plough before a fair trial could be made of it.

In closing their report they express their satisfaction at the excellent condition and fine management of the team with which they were favored on this occasion by the kindness of Mr. Stevens.

All which is respectfully submitted.

JEREMIAH JOHNSON,
PETER LIP,
JOSIAH DUTCHER,
GERRITT KONNEESSTROVEN,
HENRY COLMAN.

Practical Effects of Draining.

The system of draining introduced into Scotland some years ago, and proceeding so rapidly, must be regarded as the greatest improvement of modern times. The landlord and farmer do it jointly. Here is a safe investment for money—the expense repaid in twenty years, regular interest, and the land imoroved in value above one-third. Green crops are grown in great abundance after draining, where no attempt could be made before, and the farmers allow they have four crops in three years, and the draining pays on an average eight per cent. I know an instance of a wet clay soil, almost covered with rushes, being drained and improved at an expense of £15 an acre ($65 ;) the green crops were so productive as to repay the expense in one year, and after deducting the old rent, the improvement pays fourteen per cent upon the outlay. The drains are from 20 to 30 inches deep, and at the distance of from 12 to 20 feet, sometimes in the furrows of the field, or across, or obliquely, as the descent may suit, and sometimes the land is laid flat. Draining, to be remunerative, must be done effectually. A field cannot be drained by putting a drain in a corner, one here and another there ; by running one across the field, and another diagonally to that. It must be done completely, or not at all, for half measures are ever useless.—*Qr. Jour. of Agriculture.*

COMMUNICATIONS.

M'ADAM ROADS.

In one of the late numbers of the Genesee Farmer, I think it was, I noticed an assertion, that M'Adam roads, in consequence of our severe winter frosts, were found impracticable in this country, and the total failure of a turnpike made in western New-York, was cited in illustration. If this be the one that I have frequently passed over on my rout east, I can say it has not failed from the system, but from an imperfect application of it. That a substantial M'Adam road, can be made in a climate of a much greater intensity of frost than is to be found in any of the United States, I am free to assert, from what I myself have seen abroad. When in Russia, the great road was making between St. Petersburg and Moscow, and I often rode out to see the operations, and could not but admire the rapidity and perfection of the work. A division of twenty thousand soldiers was kept constantly employed in reliefs and resumptions of a fortnight each. The stone was broken and passed through sieves, admitting nothing of a larger size than a hen's egg. The road was then graded and turnpiked in the usual way, a course of a few inches of stone followed, then rollers of iron passed over, then another course of stone, then rollers again of increased weight, and so on till finished—the last being of immense weight and diameter, leaving the road as firm and as smooth as a thick chisseled rock, and I am told by the engineer totally impervious to rain and frost. It is about ten years since this work was finished, and gentlemen lately from Russia, assure me it has kept in most admirable order.

I have never read M'Adam's pamphlet on the subject, but recollect a short letter of his that appeared some three or four years ago in the New-York Commercial Advertiser, succinctly detailing the theory, of which the St. Petersburg and Moscow road was the exact practice. I wish that letter could be looked up and annually published throughout the newspapers and periodicals of the States, for the benefit of all conceited road makers. Pure stone of a small size, without admixture of any other substance, and heavy iron rollers, is all that is wanted in the operation. I have often stated these facts to those making what *they* called M'Adam roads, but it has always been, so far as the practice was concerned, a complete waste of words. Several of this kind have been attempted in this vicinity, and although they are very great improvements over the heavy natural soil of the country, still they are nothing to what they ought to be. As a people we are too much in a hurry; we cant make up our minds to afford the first expense, and to save a dime in first construction, we are afterwards called upon to expend dollars in repairs, and the moment the heavy rains and frosts set in, deep ruts are formed, leaving the road exceedingly rough and unpleasant. The great error is in putting the first layer of large stones, then finer ones, and smoothing off with dirt. The large stones will invariable work to the top, forming a complete nuisance till broken or removed, and the dirt only serves to mix up with the first rain that falls and makes a most uncomfortable mire.

I wish it were possible to rouse public opinion to a proper sense of the disgraceful roads throughout the United States. There is nothing as a nation in which we are so remiss and behind the Europeans, and the constant introduction of railways is calculated to make matters still worse; but notwithstanding these and canals, it should be the duty of state governments to enforce a thorough system of M'Adamizing on all the leading roads of the country. So immense do I consider the benefits of a good road in all weathers, that I would even make it in *advance* of settlements, instead of leaving it to follow them, and previous to the sale of government lands, would cut out and M'Adamise the great thoroughfares at the national expense. How much more intelligently and better done could this be by the accomplished engineer corps, than by the persons that usually undertake such work, and if our army were increased to 20,000 men, as it ought to be, to effectually guard us from pirates without, and mobs within, a certain portion of it as is Russia could be profitably employed on national roads, and the lands through which they were formed, when brought into market, would amply compensate in higher sales the national treasury for the expense, and prove of incalculable advantage to the country.

Let any one sit down and calculate the disadvantages and losses of a bad road, in contradistinction to the advantages and gains of a good one, and he could not but arise to the assistance of a reform upon the subject. How often now do we drag along through the mud knee deep, or over hard frozen ground, rough as the scoria of a volcano, drenched in the rain or shivering in a cold winter blast, at a snail's pace of two or three miles an hour, racking and wearing carriages and harness, breaking down horses and giving them a premature old age, wasting our own time, and exhausting temper and patience, when six to ten miles, with real pleasure, might be made in the same space of time. I absolutely believe, that in wear and tare of cattle, vehicles and gearing, loss of time and extra costs in marketing produce, to say nothing of our comfort, enough is expended every five years to beautifully M'Adamise the great thorough-fares in western New-York. If this then be a fact, what a loss to the country is every moment's delay in accomplishing it. We have plenty of the very first qualities of material in the elastic limestone, the science of road making is open to us in its best forms, and all we lack is the spirit to put it in practice. I would a thousand times sooner turn out to make a fine road than a fine house, or any thing else fine about me, as much more conductive to the pleasures and comforts and interests of the country. But my word for it, make fine roads, and fine other things will rapidly follow. A. B. Allen.

PLASTER.

Mr. Tucker—Among the extracts from the Geological Reports given by your correspondent 'T.' in his able notices of those state papers, is the following:

"The manner in which plaster affects vegetation appears generally not to be understood; but it is doubtless by attracting moisture, and with it carbonic acid from the atmosphere, and thus furnishing nourishment to the plant. Experiments prove that the perceptible effect at least of plaster is the absorption of moisture from the atmosphere."

To which your correspondent adds this note;—"We do not controvert these premises, except to ask for the proofs. It may be, or it may not be, so."

It is not my intention either to impugn or defend the position taken in the Report; I only wish to state the manure in which *I* think the plaster produces the effect usually ascribed to it. When lime, leached ashes, marl or plaster, is applied to plants on dry soils, or to certain plants on almost any soils, the quantity of dew deposited on such plants will be found to be greatly increased, the effect from the plaster being more obvious than from any of the other substances; and this effect is the more observable in the proportion that these substances enter into the composition of the plant, the quantity of plaster found in clover, for example, being greater than that of any other plant, and its effect applied to this plant agreeing with the general fact stated. Animal manures, where they promote a rapid growth, produce a somewhat similar increase in the deposition of dew; though the effect is not usually so marked, as in the case of some of the mineral manures named. All however are agreed that the increase of moisture on plants is one of the infallible proofs that the application of plaster is producing the wished effect.

When plaster is applied to plants I apprehend it remains mostly dormant or ineffective until in consequence of moisture in the form of rain or dews, it is washed to the ground and brought in contact with the roots of plants. It is very true that sulphuric acid has a strong affinity for water, and the partial decomposition of plaster by the action of the atmosphere may liberate some portion of this combined acid, and thus in part furnish a reason of the increased moisture on plastered plants; but many facts seem to show that but a small part of its agency is to be attributed to its action in this way.

The quantity of plaster taken up by plants is too small, to produce by its simple addition to the bulk of matter taken up, that luxuriance of vegetation we see effected by it; and we must therefore ascribe its potency to its chemical or stimulating powers. The addition of the least quantity of sulphuric acid to the water in which the plates of a voltaic battery are immersed, has a sensible effect in increasing the power and activity of the machine; and may not, (since it is now generally admitted that the growth or circulation of plants is effected by the agency of a similar if not identical cause,) the small quantity of sulphuric acid liberated from the plaster, quicker the circulation of the fluids in the plants into which it enters, and thus promote their powers of absorption, and the appropriation of nutriment.

At any rate, it is plain that with the development of the plant consequent on the use of plaster, the deposition of moisture becomes more and more perceptible, until its maximum of vegetative power is reached. All vegetables throw off moisture from their leaves during the day, as is evident from the leaves of cabbages, corn, vines, &c. wilting under a hot sun, unless the supply of moisture to the roots of the plant is abundant, when the quantity carried off produces no such effect on the leaf. Observation too of the same plants shows that the more vigorous their growth, and the more rapid their appropriation of nourishment, the greater the transpiration from their leaves, and of course the greater the quantity of water carried off by this process of vegetable sweating. The free transpiration, or evaporation, of water from any given body, living or dead, has a direct tendency to reduce its temperature; but as there is no transpiration in dead plants, and but little in those that are weak and feeble, it is clear the temperature of a healthy vigorous plant will fall much below that of an unhealthy or stunted one, from this cause. When this free transpiration or sweating of plants, has reduced their temperature below that of the surrounding atmosphere, a condensation of the vapor in the air will take place on the surface of the leaf, in the same manner as we are accustomed to see it on the outside of a pail or tumbler filled with cold water in a warm day: and as it is the vigorous plants that transpire the most freely, such are the most quickly cooled to what is termed the dew point, and consequently are the most abundantly covered with moisture. Radiation has also a tendency equal or superior to transpiration in reducing temperature. As a general rule surfaces that reflect the best, radiate the feeblest. Thus, according to Dr. Wells, if a piece of polished metal, tin or silver, be laid on a grass plot, the metal will retain its warmth and consequently remain dry, while the grass will have thrown off the heat by radiation and transpiration, and become so cool as to be covered with dew by the condensation of vapor. The radiation of leaves, like their transpiration, depends in a great measure on their size or luxuriance, and hence plants, growing vigorously have a double cause to assist in supplying them with moisture from condensation, and thus aid in retaining or perpetuating the impulse first given by the mineral stimulant. That plants derive much of their carbon from the air, has been proved by so many direct experiments, that to doubt on this point must I suppose be considered absurd; and if this is admitted, it renders the opinion of those who maintain that plaster deteriorates the soil by the extra growth which it gives plants, without the least foundation in fact, since without resorting to the earth at all for the carbon of plants, an exhaustless source is always at hand in the atmosphere.

My notion, therefore is, that the small quantity of plaster that is taken up by the plant, acts chemically in promoting and invigorating the circulation, and causing it to take up more rapidly the nutritive substances that may be within its reach in the soil—that as a consequence of this excited action, transpiration and radiation increase, and a lower temperature in the vegetable to which plaster has been applied is caused, which shows itself in the condensation of the surrounding vapor and the formation of dew—that as a further cause of the efficiency of plaster, we are to look at the great affinity there is in water for

carbonic gas, and find in the quantities of this great agent of vegetable nutrition absorbed by the dews deposited on plants, an adequate reason, in combination with the preceding ones, for this favorable action.

I do not pretend to be a philosopher; I may be wrong in my theory of its action; but when I find a neighbor of mine who raises from ten to fifteen hundred bushels of wheat annually, assert that he has realized more than seventy bushels of wheat from the use of a single ton of plaster; and when I witness its effects on my own farm, on my grains and grasses, I cannot avoid faith in its efficiency, or believe that it is an impoverisher of the soil.

Onondaga, July, 1838. A FRIEND TO PLASTER.

MANDRAKES.

In the 30th chap. of Genesis, verses 14th,-18th, we find a little anecdote of domestic history, commencing—"and Reuben went in the days of wheat harvest, and found Mandrakes in the field."—On the word "*Dudaim*" or "*Mandrakes*," Matthew Henry thus comments—"It is uncertain what they were,—the critics are not agreed about them; we are sure they were some rarities, either fruits, or flowers, that were very pleasant to the smell." "Some think these Mandrakes were Jessamine flowers," &c.

Accident furnished me the other day, with what I consider to be an elucidation of this passage. In traversing "*the bush*," I happened to pick up a fruit, which at first sight appeared to me to be the produce of some tree,—but as none save beech trees stood in the vicinity, I could not conceive whence it had dropped. It was about three inches long, and as much in circumference; somewhat in the shape of a lemon, but with one of its sides flattened or compressed. Desirous of ascertaining its origin, I carried it home, where it was immediately pronounced to be a May-apple,—the produce of a low growing shrub. A handful of the plants was soon got, with the fruit attached. They proved to be what I was well acquainted with in Scotland under the name of Mandragova or Mandrakes,* but *there* I never saw them in flower, nor, consequently, in fruit.

The May-apple is not yet ripe, nor will it be so until "*the days of wheat harvest.*" At present the inside or pulp, which, as in the melon, is the edible part, has a pleasant sub-acid flavor. When ripe however, it appears to be of a luscious and very alluring quality, as a lady told me that she had once eaten of it to satiety. Is it not therefore more than probable, that these May-apples are the "*Dudaim*" of Reuben for which Jacob's wife, Rachel, evinced such a decided "*penchant.*" W. C.

Chinguacousy, U. C. July, 1838.

* Not having a Botanical catalouge beside me, I am unable to give you the scientific name.

The Crops and the Market.

NEW-YORK, AUG. 8.—The market for Flour of every description remains without material variation since last noticed, the demand being yet very limited, and without change in prices; sales of western canal, common brands at $6,75; fancy do $7; Ohio, via canal, $5,25 a $6,50; and fancy do $7,62½. 2652 bls. were exported during the month of July.

GRAIN.—The sales of new Wheat include since our last a cargo of 2800 bushels Virginia, the first and only one received, at $1,49, and one of 1800 do North Carolina at about $1,45; a cargo of the latter description only remains unsold in market. Of foreign rye the stock has become considerably reduced, and there is no domestic of consequence at present offering; a lot of 1300 bushels prime northern sold at 95 cents, delivered. Prices of oats are fully maintained, with, however, but a limited demand, confined chiefly to parcels. Corn, in consequence of the threatened danger to the growing crop by the long continued drouth, has become an object of much inquiry, and the price by weight advanced fully 2 cents since our last; the supply is very moderate, and we note all kinds 80 a 82 cts per 66 lbs. cash, sales of good southern being made yesterday at the highest rate.

NORTHAMPTON, MASS. AUG. 8.—The *wheat* in this quarter is coming in famously. More has been sown this year in Northampton, than has been sown in the whole of ten preceeding years. The same remark applies to the whole western part, and probably to the other sections of the state. We infer from this that *something* will have to be "forked over" in the shape of bounty this year by the Treasurer. As some specimens of productiveness of the crop in Northampton Meadows, we learn Mr. I. C. Bates has gathered 140 shocks, (equal to a bushel each) from five acres and Col. Patridge 55 shocks from two acres, Tea wheat. Such crops would'nt dishonor the best New-York wheat districts.

THE WHEAT CROP IN VIRGINIA.—The wheat harvest has been finished, and without much loss from bad weather in general, though many crops on the lower James river suffered severely from a hurricane which tore down shocks, and scattered the sheaves, wherever its power reached. In that region the crops are found to be less productive in grain than in straw; and the yield will there be less, by perhaps one-fourth, than was counted on in our last report, made during harvest. Similar disappointment has been found elsewhere. Still the general crop will be a large one. From many other parts of the country, there is yet no abatement stated of the first anticipations of great product.—*Va. Farmers' Register.*

The Wool Market.

POUHKEEPSIE, JULY, 31.—This has been an active month in the wool trade, as the growers and manufacturers have met in their views, and full three-fourths of the entire clip is already sold and shipped; say at prices ranging from 40 to 60 cts. cash. The quality is better than at any former year, but the quantity is much reduced. 150,000 lbs. have already been purchased in this village, and there is yet a steady demand.

POUGHKEEPSIE, AUG. 8.—The operations of the week are not so extensive as heretefore, yet the prices are maintained. Say 40 to 55 cents, cash, for good clean wool. 20,000 lbs. have been sold and shipped during the week. There is a steady demand by the agents of the eastern manufacturers.

WOOL.—This article does not appear to rise much if any, in price, and many of our largest wool growers have on hand the growth of several years, which they keep rather than submit to a reduction of old prices. Some fifty thousand pounds were sold in the northern part of Vermont the other day at prices ranging from 28 to 45 cents according to quality.

Since the above was in type a corrspondent has sent us in the following;—"About seventy thousand pounds of wool have been purchased and taken in at the neighboring town of Charlestown, within the last six or seven weeks—at prices ranging from 30 to 40 cents per pound, according to quality and condition."

Mr. J. W. Colburn, the purchaser, of forty-six thousand pounds of the above quantity, states that he has paid out to the farmers $17,000, since the 30th of Juue last, at an average of about 37 per cent per pound, including a few fine lots of clear Saxony fleeces, which were paid 40 cents and over. Though the farmers may consider it not much of an object to grow wool at these prices, yet if they will but go back seven years and make an average of the production of their sheep, they will probably find that their flocks have paid them better than any thing else would have done, including the last two clippings which sold comparatively low.—*Claremont (N. H.) Eagle.*

PLOUGHING EVERY OTHER YEAR.

The proper rotation of crops has been a subject of much investigation among judicious farmers in all countries; and in all probability it is a subject concerning which definite and strict rules can be laid down, such is the varying influence of difference of soil, climate, and seasons. We examined a piece of wheat the other day on a farm of E. Wood, Esq., (Winthrop,) which seemed to indicate that ploughing every year was preferable to letting the land lie a greater length of time before it should be disturbed by breaking up the sward.

The piece was apparently of the same quality of soil throughout, and had been treated in the same way, excepting, (if we mistake not,) one part had been broken two years ago and laid down, while the other part had been in grass a longer time. The difference as exhibited by the present appearance of the wheat was in favor of the piece which had been mowed but one year. The wheat on that piece was taller and of better color, and will undoubtedly yield a considerable more grain at the harvest. It is true that one experiment does not always establish a fact, but the above is very good evidence in favor of stirring the ground often. It has ever been a fact with a majority of the farmers throughout New England, (the North part of it, at least) that they do not stir the land enough—that they are too sparing in the use of the plough, and suffer their fields to get too much exhausted of vegetable matter, waiting until they become covered with a thin crop of spire grass. In England, ploughing is a distinct branch of farming, aud a ploughman with his team is kept almost constantly at workin some of thir largee stablishments. Now it would not always be proper or prudent for us to follow English rules of farming in this country, but we may take useful hints from them; and it seems to us that one strong hint is, keep the plough going more constantly. —*Maine Farmer.*

(Fig. 32.)

From the Farmers' Cabinet.

Implement for dressing Ruta Baga.

FRIEND LIBBY—As the season for planting the Ruta Baga is now at hand, I send a drawing of an implement I made, and put in operation last year, for dressing them, while small, which, has received the name of the "*Hoe-ta-bagga.*" A A are two handles, six and a half feet long, made of one inch oak strips, two inches wide, and one foot apart, with the transverse handle B fastened on their ends, and by which the person using the machine propels it. C, a wheel eleven inches diameter, on which it is driven forward, the axis inserted five inches from the end of the handles: D, the cutter, made of steel, two inches wide, welded on iron shanks, which rise at such an angle to the handles on which they are bolted, as will bring the handle B nearly breast high to a man of ordinary height, the hoe having a very slight dip towards the earth.

The principle is that of the "German Scuffle." But the addition of the wheel, and lancet cutter, enables a man to go over one and a half to two acres per day, with ease—rows two feet apart. I have dressed my sugar beets with it twice this season, and have no reason to complain of its operation. The highly respectable editor of the "Genesee Farmer," (who is good authority in such matters) says, the Ruta Baga, planted in rows sixteen inches apart, and kept clear of weeds by the hand hoe, will yield nearly twice the quantity per acre as if planted thirty inches apart, and tended in the usual manner. Acting on this suggestion, I shall manure my patch on the surface, plough it under eight inches deep, harrow well, drill sixteen inches apart, thin the plants to sixteen inches in the rows, and cultivate exclusively with the Hoe-ta-bagga." This machine may be made at an expense of about two dollars. Respectfully, &c.

M. S. KIRKBRIDE.

Morrisville, 7th mo. 2d, 1838.

Operation of Marl.

Marls are held to be valuable, for spreading on land, in proportion to the quantity of calcareous matter which they contain.

Clay marl, as it is termed, is composed of carbonate of lime, silica and alumina, with a portion of the oxide of iron or manganese. It occurs in beds, and is extensively diffused. It assumes a considerable diversity of aspect and character, as it is more or less indurated, or as the calcareous or aluminous matters prevail. When very indurated, it is frequently termed rock marl.

The operation of marls is more slow than that of lime, and they require to be applied in comparatively larger quantity. They should be laid upon the surface, and generally well exposed to the influence of the atmosphere, before mixed with the soil. Some marls have been found to be very delcterious, unless they have undergone this previous exposure to the air. The kinds of soils to which clay marls are most beneficially applied, are the sandy, gravelly and peaty. In this case they supply calcareous matter to the soil, and improve its texture by the addition of alumina.

The quantity of this substance applied is exceedingly various, being dependent upon the nature of the soil, and the proportion of calcareous matter in the marl. Where the purpose has been to change entirely the constitution of a defective soil, it has been applied even at the rate of from 300 to 400 cart-loads to the acre. But where the purpose is to give merely a common manuring, it is supplied in the quantity sufficient to afford an ordinary proportion of calcareous matter. It may be laid upon the surface of land when in grass, where it remains till the land is brought under tillage; and this is the best method of applying it.

Shell marl is an entirely different substance. It is chiefly a deposit of marine, and sometimes of land shells, found under a bed of peat. It may be used at the rate of twenty-five to thirty cart-loads to the acre. It can be applied to the land when in various states, as when it is in stubble, in summer-fallow, or in grass. The latter is a good practice; for, as in the case of all calcareous matter, the application improves the herbage; and the mineral, sinking into the soil, prepares it well for producing crops of corn when it is broken up for tillage. Its operation is not so quick as that of calcined limestone, but its effects are more lasting. The same consequence is produced by excessive cropping after the a plication of this substance, as after the application of calcined limestone. The soil which has been stimulated by the action of the mineral becomes more barren than before, and it is for the most part only to be restored by rest and the action of animal and vegetable manures.—*Low.*

From the Cultivator.

The Strawberry.

As the present month and the beginning of September, is the best season for making strawberry beds, some remarks as to varieties and the mode of culture may not be unacceptable.

The fruit of the strawberry is almost universally esteemed; and is prized as well for its delicious flavor, as for its tendency to promote health, and for its efficacy in mitigating or curing certain diseases. The berries are almost wholly soluble in the stomach, and neither there or elsewhere do they undergo the acetous fermentation. They dissolve the tartareous incrustations of the teeth. They promote perspiration. When used largely, they have given relief to those afflicted with the gout; and Hoffman states, that he has known consumptive people cured by by them. The principal species and varieties are—

1. *Wood*, with oval serrated leaves; the fruit round and small, and white and green. Native of Britain.

2. *Scarlet*, with leaves like the preceding, roundish and scarlet colored. Native of North America. Varieties; early scarlot, Willmot,s late, common late, Wilmot,s scarlet.

3. *Roseberry*. A Scoteth seedling. The plants have few roundish leaves, larger fruit, and are very prolific. Continues bearing until August.

4. *Downton*. Fruit large, irregular and coxcomb-like; leaves large; plants hardy; and although prolific in England has not proved so with us. We have grown a berry that measured5 3-4 inches.

5. *Carolina or Bostock.*

6. *Musky orHautboy;* with oval rough, javellin edged leaves, the fruit large, of a pale red.

7. *Chili*; with large oval, thick hairy leaves, and large flowers; the fruit large and very firm. A native of Chili.

8. *Keen's Imperial, orNew Chili*; a large showy fruit, in great repute in England, but not so much esteemed here.

9. *Pine*; the leaves small and delicate. There are two sorts, the red and the white, or greenish-tinted, of the most rich flavored fruit. The Methven Castle belongs to this class. South America.

10 *Alpine*, or *prolific* or *monthly;* commonly lasts from June to October; two sorts, white and red.—The Alps.

11, *One leaved*; the pulp of the fruit pink colored. South America.

We received twelve kinds of select fruit from the London Horticultural Society, in 1835; but continue to cultivate in our garden only the Methven and scarlet,—the latter coming in use ten or fourteen days before the former,—both abundantly prolific. Some of our beds are six years old, and they have produced as abundantly this as in any former year. We ascribe this continued productiveness to our pointing in horn shavings annually between the beds, and strewing upon the latter in autumn tan from the morocco leather factory. The Methven is in bearing about two weeks; we have had 47 berries that weighed a pound many that measured over four and one that measured five and one-quater inches in diameter. Our practice is to clean the alleys and the beds before the blossoms show, to leave the runners till the fruiting season is over, and after that to take off those that intrude upon the alleys, and to dung and dig these.

The strawberry multiplies rapidly by suckers or stolens, and may be transplanted as soon as the leaves have grown at the joints, although the roots are but imperfectly formed. If planted out in this month they will give a partial crop the next season, and will be in high perfection the second year.

Mr. Keen, near London, who appropriates acres to the growth of this fruit, recommends that the pine be grown in a light loam, though no kind will grow better in a stiff one. The imperial and scarlets like a similar soil. The hautboys like a great soil. The wood strawberry is generally raised from seed, and the alpine always. The seed is best sown as soon as the fruit ripens; the plants to be set in fruit beds the spring following. Our own experience leads us to recommend, that the pines and scarlets be in a loose, rich, and pretty moist soil, our climate being dryer than that of Britain, and the strawberry demanding a great supply of moisture when fruiting.

The mode of planting is generally in beds containing two three or four rows, with alleys of two feet between them.

The soil should be well dug and pulverised, and the situation open and exposed to the sun. The larger growing kinds may have intervals of two feet between the rows, and of 18 inches between the plants in the rows; the smaller growing kinds may be planted closer. Keen cuts the un ners three times in a season—we cut them but once, and leave then the new plants that take root in the beds, mostly to grow. His culture may be the most perfect, but ours is attended with the least labor, the cost of which is here trivial to what it is here Keen plants the pines and hautboys 2 feet by 18 inches. He found among the different kinds of hautboys, one which had the male blossom on one plant and the female on another; and experience, soon taught him, that to render them fruitful, it was necessary to mix the two kinds in his beds, in the proportion of one male to eight females. Mr. langworthy, of Cincinati, and Mr. Downing, of Newburgh, think that the male and female blossom grow in different plants, in other kinds of strawberry: but our limited experience has not enabled us yet to confirm their opinions. The duration of most kinds with Mr. Keen, is three years—the wood strawberry and alpine, two years. The latter bears fruit the first year after sowing.

The general dependence, in the country, for the strawberry, has been upon those growing wild in the fields; but independent of the fact, that this fruit cannot grow where the farm is well managed, the extra trouble of gathering them in meadows, is more than equivalent to the labor of taking care of them in the garden.

With regard to manures for strawberry beds, such are to be preferred as are cool, and free from the seeds or weeds. Cow manure is preferable to that of horses. Bone dust and horne shavings are excellent, if not applied in too large quantity. A bushel and a half of either should go as far as a load of long dung. For top-dressing the beds in autumn, there is nothing better than tan, that from the moroco leather factory being preferable. The tan smothers weeds, keeps the soil moist, the berries clean, and seemswithal, to afford the specific food for the plant. It is recommended to cover strawberry beds *lightl y*with straw, in the spring, and burn it off, which destroys theseeds of weeds, &c. We have been crully censured for this recommendation, by one who unwittinglr burnt *piles* ofstraw upon his beds, and consequently destroyed his plants.

A REMEDY FOR THE BLACK WORM.

A correspondent who subscribes himself "A Visiter rom Ohio" has furnished us with the following:—

Having observed by your public prints,that many of your beautiful shade trees in this city are already suffering much from the ravages of the large black worm, I hasten, from the impulse, of a most agreeable duty towards that lovely city whose kind hospitalities I am sharing, to communicate a remedy which we, in Ohio, have repeatedly tried most successfully, in the destruction of the caterpillar on *our* fruit trees, which, I doubt not, would answer equally well for the like here existing. I mean the flour of Sulphur,—and it is to be introduced into the body of any tree infected with these worms, by first boring with an auger or gimlet, according to the size of the tree, then inserting the sulphur, with a quill or other tube, and usually about one-third of the way into the tree, then tightly plugging up the orafice. In a few hours we have seen these little pirates running off in every direction; or, as is most generally the case, falling dead by handfulls from the trees. The sap, circulating through the tree, goes, tinctured with this, through every part of it, and the direful effects may also be witnessed by a microscope among the tribes of disconnected animalculæ upon the surface of the leaves.

I think the pitch burning in the pots, and sending its smoke up, as recommended, may answer in a very still time, but we deem the other mode far preferable. If the diameter of the tree, be from five to ten, or even twelve inches, a *half inch* auger may be used; if less than five inches, we usually take a largo gimlet.

P. S.— I tried the foregoing, one season upon a number of fine English plum trees for a different purpose, having for some years before lost the fruit; this year we enjoyed some of the fruit, but I think I bored them too late. The plum was ripening:—the present would be a suitable time. Whether this will answer for the above purpose I do not decidedly affirm, but believe it well worth the trial.—*Farmer and Gardner.*

A Hint to Cattle Breeders.

T. A. Knight, the very distinguished horticulturist, publishes in the Farmers' Magazine, a communication on the ill effects of over feeding young stock. Young cattle thus brought up, when taken into other districts, have been found, with other offspring, incapable of thriving upon common pastures. Animals, he thinks, which have been over fed from their birth, and whose ancestry, have been subjected to the same treatment, acquire a power of eating and digesting a much larger portion of food than others. He admits that the improved Durhams are brought to market at a very early age, oxen of very great weight and excellence; yet he says it is well known that all those young animals come to market deeply insolvent, the sums for which they are sold being greatly less than those expended in feeding them. In illustration of their expensive keep, he cites the following facts:

"Three Herefords and three Durhams," says he, "were put into stalls, to be fatted, on the 3d of November. The weight of the Herefords was then 33 cwt. and that of the Durhams, 38 cwt. and 14 lbs. Between that period and the 30th March, when all were sold in Smithfield, the Durhams consumed 12, 755 lbs. weight more of turneps, and 1,714 more pounds of hay, than the Hereford; but the Durhams, notwithstanding the larger size when put to fatten, and the greatly larger quantity of food consumed, sold for only 20 shillings more than the Herefords; and such I believe will ever be the result of similar trials, when one class of animals has been properly fed, and the other over fed, the merits of the breed being equal."

This reasoning is true in regard to perennial vegetables—trees for instance. If the nursery from which they are drawn, and in which they have been raised, is very rich, they will not thrive so well in a common soil, as those which are taken from a soil of an inferior quality. If the habit of gormandizing is established when the plant or animal is young, neither will thrive so well afterwards upon spare food, as if they have been brought upon more moderate fare.—*Cultivator.*

THE GRAIN WORM.

Farmers are anxiously watching for the appearance of this insidious destroyer of the wheat crop. It was supposed that the warm, moist weather of June would bring it forward much earlier than common, and there is reason to suppose that to be the case. A friend in Winthrop has just given us some branches of the "hard hack," (*spirea,*) the leaves of which are curled over, forming cells which are full of small worms, resembling, as far as the unaided eye can judge, the Grain Worm exactly. Mr. Norcross, of Dixfield, informs us that they have commenced their devastations in his wheat, and others think they have discovered them in some other plants. It is probable that as much of the wheat sown this year was sown late, it will escape the ravages of this minute but powerful enemy. It is well to watch him narrowly and learn as much of his habits and movements as possible, for we can never successfully contend with him till we understand him fully, and can use this knowledge by counteracting his operations. We have seldom had such a prospect before us for such a bountiful harvest of all the crops now growing as the present time affords, and we hope that Divine Providence has no calamity in store by which to disappoint the hopes of the husbandman, by cutting off the crops which now look so flourishing.—*Maine Farmer.*

BUSHES.

In many parts of our country, the pasture grounds are infested, and often overrun, with noxious shrubs; this is the most slovenly part of our husbandry, and ought to be cured.

Eradicating them, says *Deane*, requires so much labor, that farmers are most commonly content with cutting them once in a few years. But the more cutting they survive, the longer lived they are apt to be; and the harder to kill, as the roots continually gain strength. It is undoutedly true, that cutting bushes in the summer will do more towards destroying them, than doing it in any other season, particularly in August. Other circumstances being equal, the wettest weather is best for destroying shrubs by cutting. Spreading plaster on ground where bushes have been cut, may tend to check their re-sprouting, by encouraging the growth of grass.

It is said to be a good method of destroying bushes, to cut them with hoes close to the surface, when the ground is frozen hard; and that more may be destroyed in a day, in this way, than in the usual method of cutting with a bush scythe.

Bushes which grow in clusters, as alder, &c. may be expeditiously pulled up by oxen; and this is an effectual way to subdue them.

Elder is considered harder to subdue than almost any other kind of bush; mowing them five times in a season, it is said, will not kill them. The roots of the shrub oak will not be killed but by digging them out.

To destroy bushes in swamps, flooding two or three summers is the most approved method. But if this is not convenient, draining will so alter the nature of the soil, that the shrubs, which are naturally produced before, will not be any longer nourished by it; and one cutting may be sufficient.

After all, extirpation, by digging them out, and by fire, is cheapest and most effectual.—*Farmer's Guide.*

Bleeding a remedy for loss of Appetite in Swine.

There has been a number of instances lately, in this vicinity, of loss of appetite and great debility in some sows after having brought a litter of pigs. One or two have died, and others were saved only by assiduous attention in feeding them by hand. A friend mentioned to us the following remedy, which he states is commonly successful. Bleed the animal by cutting across two or three of the ridges or bars in the roof of the mouth. By doing this once or twice, the animal is most likely to recover soon. Should it bleed too much, put some rye meal or soot into the mouth, which will collect about the cut and form a plaster which will prevent any further flow of the blood. No doubt this remedy would be useful in many other disorders of swine; but we seldom hear of bleeding them except by cutting off the ears or tail.—*Maine Farmer.*

HOPS.

Accounts from England notice a general attack of the fly. Hops are therefore in very brisk demand, at an advance of from 8*s.* to 10*s.* per cwt. This will necessarily affect the price of hops in this country. We have noticed some fields here that have been attacked by the fly. Will some one inform us what are the prospects for the crop? —*Yankee Farmer.*

From the Southern Agriculturist.

Prognostics of the Weather.

Mr. Editor—The subjoined prognostics of the weather have been taken from authors of approved experience, and in many instances of much learning. Many, indeed none of their works have, as I believe, been republished in this country, for the editions from which I have drawn my information, are English.* This last conviction induces me to send you this article, which I had compiled for my own use. The space allotted prohibits me from giving the causes of the respective prognostics—in each instance, however, the prognostic can be explained by the laws of nature.

I. SIGNS FROM VAPORS OR MISTS.

1. If a white mist in an evening or night spread over a meadow wherein there is a river, it promises the next day to be bright.

2. When the mist hanging over the lower lands draws towards the hills of a morning, and rolls up their sides until the tops be covered, there will be no rain.

3. In some places, if the mist hangs upon the hills, and drags along the woods, instead of overspreading the lower ground, in a morning, it will turn to rain.

4. If mists rise in low grounds, and soon vanish, fair weather.

5. If they rise to the hill tops, rain in a day or two. (One of Mr. Worlidge's rules.)

6. A general mist before the sun rises near the full moon; fine weather.

II. FROM CLOUDS.

1. It is a sympton of fair weather when clouds dissolve into air; otherwise when they are collected out of the air.

2. When heavy rains are about to fall, every cloud rises bigger than the former, and all the clouds are in a growing state.

3. When clouds are fleecy, deep, and dense towards the middle, and very white at the edges, with the sky very bright and blue about them, they are of a frosty coldness, and will soon fall either in hail, snow or hasty showers of rain.

4. When clouds breed high in the air in thin white trains, like locks of wool or the tails of horses, there will soon be wind below, and probably a rain with it.

5. When clouds as they come forward seem to diverge from a point in the horizon, a wind may be expected from that quarter or the opposite.

6. When a general cloudiness covers the sky above, and small black fragments of clouds, like smoke, fly underneath, rain is not far off, and it will probably be lasting.

7. No surer sign of rain than two different currents of clouds, especially if the undermost flies fast before the wind: and if two such appear in hot summer, a thunder storm is gathering.

8. Clouds like large rocks; great showers.

9. If small clouds increase; much rain.

10. If large clouds decrease; fair weather.

11. In summer when the wind has been south two or three days, and it grows very hot, and clouds rise with white tops, like towers, as if one were on the top of another, joined together with black on the nether side, there will be thunder and rain suddenly.

12. If two such clouds rise one on either hand; rain.

13. Dappled white clouds, (called a mackerel sky) generally predict rain.

14. Small black clouds of a clear evening; undoubted signs of rain.

15. Blue or black clouds near the sun any time of the day, or near the moon by night; signs of rain.

16. Small waterish clouds on the tops of hills; rain.

17. If clouds grow or appear suddenly, the air otherwise free from clouds; tempests at hand, especially if they appear to the south or west.

18. Clouds setting on the tops of mountains; hard weather.

III. DEWS.

Dew plentifully on the grass after a fair day, foretells the next day fair; but if after such a day no dew is on the ground, and no wind stirring, rain may be expected.

IV. FROM SKIES.

1. Between a red evening and grey morning, is commonly a heavy dew or a mist over the ground, but if a red morning succeeds, there is no dew.

2. When a lowering redness spreads too far upwards from the horison in the morning or evening, rain or winds follow, and often both.

3. When such a redness, together with a raggedness of the clouds, extends towards the zenith in the evening, the wind will be high from the west or south-west, with rain.

4. When the sky in a rainy season is tinged with a sea-green color, where it ought to be blue, the rain will continue and increase.

5. If it is of a deep dead blue, the weather will be showery.

6. A dark thick sky, lasting for some time, either without sun or rain, always becomes fair, then foul—that is, a clear sky before rain.

V. FROM SUN.

1. When the air is hazy, and the sun's light fades by degrees, and his orb looks whitish and ill defined; one of the most certain signs of rain.

2. If the rays of the sun breaking through the clouds, irradiate and are visible in the air, rain soon.

3. White at his setting; bad weather.

4. Shorn of his rays; bad weather.

5. Going down into a bag of clouds which lie in the horizon; bad weather.

6. If he rise red and fiery; wind and rain.

7. It he rise cloudy, and clouds decrease; fair weather.

VI. FROM MOON.

1. When moon and stars grow dim, with a hazy air and ring or halo around it; rain follows.

2. If moon appear pale and dim, expect rain.

3. If red, a sign of wind.

4. If of its natural color, and the sky clear, fair weather.

5. If the moon is rainy throughout her course, it will clear up at the ensuing change, and the rain will probably commence in a few days after, and continue; if, on the contrary, the moon has been fair throughout, and it rains at the change, the fair weather will probably be restored about the fourth or fifth day of the moon, and continue as before.

6. If the moon does not appear till the fourth day, a troubled air for the whole month.

7. If the moon, either at her first appearance, or within a few days after, has her lower horn obscure, or dusky, or any wise sullied, it denotes foul weather before the full.

8. If discolored in the middle, storms are to be expected about the full, or about the wane, if her upper horn is affected in like manner.

9. When on her fourth day, she appears spotless, her horns unblunted, and neither flat nor quite erect, but betwixt both, it promises fair weather for the greatest part of the month.

10. An erect moon is generally threatening and unfaverable, but particularly denotes wind; though if she appear with short and blunted horns, rain may rather be expected.

VII. FROM WINDS.

1. When the wind veers about uncertainly to several points of the compass, rain is pretty sure to follow.

2. Some have remarked, that if the wind, as it veers about, follows the course of the sun, from the east towards the west, it brings fair weather: if the contrary, foul; but there is no sign of rain more infallible, than a whistling or howling noise of the wind.

3. Wind turning to north-east, continuing there two days, without rain, and not turning south the third day, or not raining the third day, will be likely to continue North-east for eight or nine days fair, and then come south again.

4. If it turn again out of the south to the north-east, with rain, and continue in the north-east two days, without rain; and neither turns south nor rains the third day, it is likely to continue north-east two or three months.

5. After a northerly wind, for the most of two months or more, and then coming south, there are usually three or four fair days at first, and then on the fourth or fifth day comes rain, or else the wind turns north again and continues dry.

6. If it returns to the south within a day or two without rain, and turns northward with rain, and returns to the south in two or three days, as before, two or three times together after this sort, then it is likely to be in the south or south-west two or three months together, as it was in the month before.

7. Fair weather for a week with a southerly wind, is likely to produce a great drouth, if there has been much rain out of the south before. The wind usually turns from north to south with a quiet wind without rain; but returns to the north with a strong wind and rain. The strongest wind is, when it turns from south to north by west.

8. If you see a cloud rise up against the wind or with wind, when that cloud comes up to you, the wind will blow the same way the cloud came.

9. When the wind varies for a few hours, and afterwards begins to blow constant, it will continue for many days.

10. Whatever wind begins to blow in the morning usually continues longer than that which rises in the evening.

11. If the wind be east or north-east in the forepart of the summer, the weather is likely to continue dry; and if westward towards the end of the summer, then it will also continue dry.

12. If in great rains the winds rise or fall, it signifies the rain will forthwith cease.

13. If the south wind begins for two or three days, the north will suddenly blow after it; but if the north blows for the same number of days, the south will not rise till after the east has blown for some time.

14. A change in the warmth of weather is generally followed by a change of wind.

VIII. METEORS.

When meteors, or the aurora borealis, appear after some warm day, it is generally succeeded by a coldness of the air.

IX. FROM ANIMAL CREATION.

Swallows, when they fly aloft after their prey, a serene sky—when they skim the ground or the water, rain not far off—their appearance a sign of spring set it. When the notes of the whippowil are heard, spring has set it—when sheep wind up the hills in the morning to their pastures, and feed near the top, an indication of the clearing of clouds, or drizzly weather—dogs grow sleepy and stupid before rain, and by refusing their food and eating grass, show their stomachs out of order—water fowl dive and wash themselves more than ordinarily before rain—flies are particularly troublesome, and seem more hungry than usual—toads are seen crawling across the road or beaten path in the evening—moles work harder than usual, and sometimes come forth; so do worms—ants are observed to stir and bustle about, and then return to their burrows—bees stir not far, and betake themselves to their hives—swine discover uneasiness, as do likewise sheep, cows, &c. all appearing more eager in pasture than usual—birds of all sorts are in action, and more earnest after their prey—fleas biteharder than common—spiders crawl abroad. On the contrary, spiders' webs on the trees, or in the air, indicate fair and hot weather—so do bees, when they fly far and come home late—likewise, a more than usual appearance of glow worms by night. If gnats play up and down in the open air, near sunset, they presage heat; if in the shade warm and mild showers; but if they join in stinging those that pass by them, cold weather and much rain may be expected. In men, frequently, aches, corns and wounds are more troublesome, either towards rain or frost. The crow cawing and walking alone on the seashore, or on the banks of rivers or pools, presages rain. Birds that change countries at certain seasons, if they come early, sow the temper of the weather, according to the country whence they came; as in winter, woodcocks, pigeons, &c., if they come early.

X. FROM VEGETABLE CREATION.

1. Most vegetables expand their flowers and down in sun-shiny weather, towards the evening; and against rain, close them again—as in the down of Dandelion. The rule is, if the flowers are close shut up, it betokens rain; if they are spread abroad; fair weather.

2. All wood, even the hardest and most solid, swells in moist weather.

3. The speedy drying of the earth's surface, is a sign of a northerly wind and fair weather; and its becoming moist, of a southerly wind, and rain.

2. When sounds are more plainly heard than usual, rain.

5. If wainscots or walls that used to sweat, be drier than usual in the beginning of winter, or the eaves of houses drop more slowly than ordinary, it portends a hard and frosty winter.

6. When there are but few nuts, cold and wet harvests generally follow; when a great show of them, hot, heavy and dry harvests succeed.

7. If the oak bears much mast, it presages a long and hard winter. The same of hops and haws.

XI. FROM RAINS.*

1. Sudden rains never last long; but when the air grows thick by degrees, and the sun, moon and stars shine dimmer and dimmer, it usually, rains six hours.

2. If it begins to rain from the south with a high wind, for two or three hours, and the wind falls, but the rain continues, it is likely to rain twelve hours, or more; and does usually rain until a strong north wind clears the air; these long rains seldom hold above twelve hours.

3. If it begins to rain an hour or two before sun rising, it is likely to be fair before noon, and continue so that day; but if the rain begins an hour or two after sun rising, it is likely to rain all that day, unless the rainbow be seen before it rains.

XII. FROM SEASONS.

1. Generally a moist and cold summer portends a hard winter.

2. A hot and dry summer and autumn, especially if the heat and drought extend far into September, portend an open beginning of winter, and cold to succeed towards the latter part and beginning of spring.

3. A warm and open winter portends a hot and dry summer, for the vapors disperse into the winter showers: whereas cold and frost keep them in, and convey them to the late spring. So saith my Lord Bacon.

4. A severe autumn denotes a windy winter; a windy winter, a rainy spring; a rainy spring, a serene summer; a serene summer, a windy autum; so that the air in a

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* Lord Bacon, Beat, the Shepherd of Benbury, Worlidge and Claridge.

* It seems that in any given place, the quantity of rain falling one year with another, has been discovered to be the same, from which fact one might easily anticipate the seasons. This experiment has been tried in not less tha thirteen places on the Continent, so as to confirm the rule for forty successive years.

balance is seldom debtor to itself; nor do the seasons succeed each other in the same tenor for two years together. So also saith my Lord Bacon.

5. At the beginning of winter, if the south wind blow, and then the north, it is likely to be a cold winter; but if the north wind blow first and then the South, it will be a warm and mild winter. BARNWELL.

Pine Plains.

In our last number we published a communication in which it is recommended to raise wheat on pine plains, sowing clover with the wheat, and after harvest ploughing in the stubble, clover and weeds for manure, and then sow again.

There are pine plains in many parts of New England, some of which are very extensive, and the time has not yet arrived for their value to be duly estimated. With good management they will yield good crops of grain, and after being well cleared may be managed in a very easy and cheap manner, and wheat and rye may be raised on them much cheaper than it is now grown on rough hard lands. In the cultivation of winter grain, in this manner, the clover being sowed in the last of summer or first of the fall, it would attain a pretty good growth and furnish the very best of manure for wheat. Plaster sown with the clover would greatly increase its growth. If winter wheat should not succeed well, and if the clover and stubble should not afford sufficient manure, there may be a green crop of clover, oats, or something else raised and ploughed in every second year, which will afford a good manure for a wheat crop in the intermediate years. It will not cost so much to raise wheat on light land every other year and work the land the other years to manure it, as it will to raise it on the lands on which it is now generally raised in New England, and it would cost but little more to raise green crops and plough them in for manure, on lands so easily worked, than it would to haul out manure and spread it.

We have seen extensive fields of very stout wheat on the Saratoga plains, and the natural fertility of those plains was not superior to many extensive tracts in the New England states. Some persons will be ready to inquire why plains are not more extensively cultivated, if they are so valuable for grain raising when many farmers have tried them and can judge of their value. We would answer, that but very few indeed have managed them well. Most farmers that cultivate plains cultivate hard land also, and the latter requires, all their manure, and the plains are neither enriched by hauling on manure nor by green crops; of course it cannot be expected that they will be productive.

We saw many years since a very interesting account of the profitable management of light land—a piece of pine plains, we believe. We cannot recollect the particulars, but we will give the substance of the article. There was a piece of light, and as almost every one thought, worthless piece of land laid common, as no one thought it was worth fencing; at length a new farmer came into the neighborhood, having purchased a farm adjoining this piece of commons. He purchased this common also, which contained 40 or 50 acres, at a low price, for there was no competition; he fenced it and ploughed it and sowed clover and plaster; the plaster caused a good growth of clover, which was ploughed in; again it was ploughed and sowed with clover or oats; in this way it was managed for three years.

Whether one or two crops were raised and ploughed in usually, and what the green crops were each year, we do not precisely remember. On the fourth year a very stout crop of wheat was raised on this land, and the soil was then in a good state, being much improved for future crops. There was a particular account kept of the price of the land and all the expenses of fencing, cultivation, seed and every other expense, and the wheat produced the fourth year, sold for enough to pay for the land, and other bills, including interest, and leaving a handsome balance in his favor. The farmer then had his land in a fertile state, well fenced, and prepared for another crop. The addition of a good grain field of forty or fifty acres to one's farm, was surely no trifling advantage, to say nothing of the balance of money in his favor.

Pine Plains produce the very best of grain; we heard a gentleman observe last summer, that he ate some excellent rye bread at a public house in Philadelphia; and as the bread was of superior quality, he inquired the method of making it, and learned that its excellence was owing to its being made of rye raised on the Jersey plains.

The Springfield Republican of July last year, spoke of the luxuriant fields of rye, "ripe for the harvest," promising fields of corn, and fine crops of clover on what had been considered "poor pine plains." There are many farmers near pine plains, whose farms are rough and hard to work, and being cold they have only manure enough to dress a few acres so that they can raise only a small quantity of wheat; if they would improve pine plains, they could, without taking any manure from their farms for that purpose, raise large crops of grain, and by raising roots and feeding them with the straw to stock, which will keep creatures in a good and thriving condition, they could keep more stock and improve their farms by the increased quantity of manure.

There are some counties in New England in which the inhabitants do not raise more than one-half or two-thirds of their bread stuff; and yet there are in them pine plains on which might be raised grain enough to supply such counties with bread enough and to spare. We hope that this subject will receive more attention.—*Yankee Farmer.*

Preventing Cider from becoming Sour.

There are several modes adopted by farmers, to prevent their cider from becoming sour. One is, the putting in of mustard seed—about a gill to the barrel. For some reason or other, this prevents the acetic fermentation, and the cider remains free from that sourness, or hardness, as it is sometimes called, which it otherwise would have. The different modes of refining cider, adopted by some who follow the business, depends undoubtedly on separating all unnecessary vegetable matter from the liquor, and checking the fermentation at the right time.

Farmers generally, have neither the time nor the skill to follow out all the operations required to do this; and hence the most of their cider becomes hard, by the next summer after it is made.

We have been informed that the addition of *Salt Petre*, in the proportion of one quarter of a pound to a barrel, would not only prevent the cider from becoming hard or sour, but even if added after it had changed, would restore it to a pleasant state again.

We cannot vouch for the truth of this from any experience which we have had ourself with it, but can see no good reason why it should not succeed; nor can we discover any harm which it could do by any of the combinations which it would make with the cider, to which it may be added.—*Maine Farmer.*

Silk Business.

PERSONS who intend doing an extensive business next year with the Mulberries, can be supplied with the *true genuine Morus multicaulis* trees and cuttings, by sending in their orders early. Companies that wish to contract for large quantities, can be supplied on reasonable terms. The trees are to be well packed, so as to be sent to any part of the United States, and delivered this fall. The subscriber has been extensively engaged in the culture of silk for some years, particularly to the production of the Morus multicaulis; and will be hapyy to give any information respecting the tree or feeding the worm that may be required—silk, worm eggs, &c.

All letters will meet with immediate attention if assingned to EDWARD H. ARNOLD.
Burlington, New Jersey.

N. B. As orders are coming in now, it would be well for those in want to apply early. Aug. 1838.–3m*

Imported Sheep for Sale.

TO be sold, ten Leicester Bucks. These animals were selected from some of the best flocks in England, and imported last year by their present owner. Also, an imported Devon Bull. Apply to
JOHN COWLEN,
Aug. 4, 1838.–3t *Truxton, Cortland Co., N. Y.*

Morus Multicaulis.

THE subscribers are prepared to furnish Chinese Mulberry, or Morus multicaulis trees, in large or small quantities, delivered any time this fall after the first of October, or they will contract them delivered in the spring.

The trees were raised in this climate from layers, are from two to three feet high, of thrifty growth and matured wood, and will be sold at the lowest prices, in proportion to their size.

October and November are the most favorable months to transport them to the Western states or into Canada, or in any direction where they must be sent a distance by water communication.

Applications for Trees may be made at the Green House on Sophia-street, where they will be kept, or at the Seed Store in the Arcade; and orders from a distance, by mail, should be sent early, addressed to
REYNOLDS & BATEHAM.
July 28, 1838. *Rochester, N. Y.*

Silk Worms Eggs.

WE can furnish any quantity of Silk Worms Eggs, of the white or two crop variety.
REYNOLDS & BATEHAM.
Rochester, July 28, 1838.

Seed Buckwheat,

A GOOD clean article for sale low by
June 23. REYNOLDS & BATEHAM.

Red Clover Seed,

A FEW bushels just received, for sale by
June 23. REYNOLDS & BATEHAM.

New Arrival of Turnep Seeds.

WE have just received from England a large additional supply of TURNEP SEEDS, among which are the following kinds:

Ruta Baga, or Yellow Sweedish,
Dale's Yellow Hybrid,
Yellow Bullock, Yellow Scotch,
Yellow Aberdeen, Red Round,
White Globe or Flat,
White Norfolk, Long Tankard,
Early White Flat Dutch,
White Stone, Yellow Stone,
Yellow Malta, Yellow Dutch.

☞ See descriptive list on page 198, current vol. Genesee Farmer. REYNOLDS & BATEHAM.
Rochester Seed Store, June 23, 1838.

Drill-Barrows or Planting Machines.

A NEW supply of Robbins' Patent Planting Machines, just received at the Rochester Seed Store.

Also, a number of Merchants' Patent Drill Barrows. [See No. 18, current vol. of the Genesee Farmer.]
May 5. REYNOLDS & BATEHAM.

Farmers' Books.

NOTICES on the Sugar Beet, containing a description of the culture and preservation of the plant; also explanations of the process of extracting its Sugar. Price 25 cts.

A Manual of the art of making and refining sugar from Beets. Price 75 cents.

Cobb's Manual on the Culture of Silk.
Chaptal's Agricultural Chemistry.
The Complete Farmer, by Fessenden.
Fessenden's American Gardener.
A Guide to Orchardists.
Smith's Treatise on the Honey Bee.
A Treatise on Cattle.
Mason's Farriery.
Barnum's American Farriery.
Vols. 1st and 4th, Genesee Farmer, bound.

For sale by D. HOYT,
Rochester, May 26, 1838. Bookseller, 6 State st.

Fruit Trees for Sale.

THE subscriber respectfully informs his friends and the public, that he has for sale at his Nursery in Rochester, Monroe county, state of New-York, a large quantity of Fruit Trees, grafted and inoculated with the most approved kinds, now fit for transplanting, which he will sell on the most reasonable terms. SAMUEL MOULSON.
April 15, 1838.

N. B. CASH will be paid for a few thousand two years old APPLE TREES.

Monroe Horticultural Garden & Nur-

SERIES, GREECE, MONROE COUNTY, N. Y.

THIS establishment now comprises over 20 acres, covered compactly with Trees and Plants in the different stages of their growth.

The subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Grape Vines, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, Splendid Pæonies, Double Dahlias, &c. &c.

Also, a large collection of Green-House Plants, of choice and select varieties, in good condition.

Orders respectfully solicited. Trees and Plants, when ordered, are carefully selected and faithfully packed, and if desired, delivered on the Canal, one mile from the Nursery, or at Rochester.

Orders for Mr. Rowe's Nursery received by the publisher of this paper.

Catalogues will be sent to every applicant, gratis, or may be had by calling at the office of the Genesee Farmer.
April 1, 1838. ASA ROWE.

ELECTION NOTICE.—*Sheriff's Office, Monroe County, Rochester, July 19th*, 1838.—A general election is to be held in the county of Monroe, on the 5th, 6th and 7th days of November next, at which will be chosen the officers mentioned in the notice from the Secretary of State, of which a copy is annexed.

DARIUS PERRIN, *Sheriff.*

State of New-York, Secretary's Office, Albany, July 16th, 1838.—SIR: I hereby give you notice, that at the next General Election in this State, to be held on the 5th, 6th and 7th days of November next, a Governor and Lieutenant Governor are to be elected.

I also give you notice, that a Senator is to be chosen in the Eighth Senate District, in the place of Isaac Lacy, whose term of office will expire on the last day of December. JOHN A DIX, *Secretary of State.*

To the Sheriff of Monroe county.

N. B. The Inspectors of Election in the several towns in your county, will give notice of the Election of a Representative to Congress from the 28th Congressional District. They will also give notice of the Election of Members of Assembly, and for filling any vacancies in county officers which may exist. July 28, 1838.